

EFB 462/662 - ANIMAL PHYSIOLOGY ONLINE
3 CREDITS
FALL 2017
COURSE SYLLABUS

Summary Information

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About this course

This is a course in the physiology of animals, or, to use a common phrase, how animals work.

Animals are, in one sense, machines, and the aim of the science of physiology is to understand how these machines function—what drives them, how they operate, the interaction of the various systems they comprise, and the physical and chemical constraints on how they work.

Animals are also organisms, and this course is intended to help you understand how animals work as integrated units, *i.e.* as organisms. We will be concerned with how organisms' various components work to keep an animal alive, with how these are coordinated, and how the various types of animals, despite their disparate evolutionary histories, solve common physiological problems, sometimes in remarkably innovative ways.

There are no prerequisites for the course, but it is a senior-level course. I therefore presume that you come into this course with the background in chemistry, physics, mathematics and biology that can be reasonably expected of a senior biology student. I will draw heavily from that background, so if you feel the things you learned in these introductory courses have long been forgotten (a not uncommon occurrence), you may wish to dig up your old biology, chemistry and physics textbooks and notes, and refresh your memories.

Course format and philosophy

This is an **online lecture course**. There are no regular class meetings. You complete the course at your own pace and on your own time, constrained only by the examination dates. The exam dates are given in the course calendar. The course calendar also gives you a suggested pace through the lecture materials.

Note that the academic calendar gives a nominal class meeting time of Tuesdays and Thursdays of 9:00-10:50. You can, for the most part, ignore that. The class time will be relevant only for examinations: three of the four course examinations will be given at the nominal class time on the dates specified in the course calendar.

Lectures are delivered in the form of video lectures, each consisting of several short segments of 5-15 minutes each. There are more than 150 of these clips, and they are grouped into lecture playlists, which can be found in the Lecture folders. Lecture folders are sequentially numbered. You should go through them in numbered order.

There is also a Master playlist, which contains all the clips for the course. Playlists are searchable. If you want to see what lectures deal with a particular topic, each playlist has a search box that lets you search on keywords in the playlist. You can also search all the course videos through the Master playlist.

You must be connected to the internet to view these lectures. Please note that all videos are HD 1080p resolution (1920X1080), so they are best viewed with a high-speed connection. This gives you a high quality image, but you need to give the video time to buffer. Buffer times will be longer if your internet connection is slow.

You may access the video material as many times as you would like, and to review them as often as you wish. The video lectures are under copyright protection, however, and this means you may not download these videos to your own computer.

A note on how to use the video lectures: The video lecture material is intended to mimic as much as possible a “chalk-talk” lecture style, presented as if you are sitting in a lecture hall listening to a lecturer in front of a blackboard. You will do best when you engage the videos as an active participant, just as you would act in a lecture hall. You should take notes as you watch the videos, just as you would in a normal lecture, because the very act of note-taking and drawing helps you better to learn the material. Treating the video lectures as if they were a television program to be watched passively will not help you to learn. Watch the videos, repeat, rewind, make notes, write questions, work through them as many times as you need to master the material. If you have questions, post them to the question and answer forum that is set up within the “Discussions” content area. I will answer questions as rapidly as I can. You are also welcome to bring questions directly to me, preferably in person so I can get to know you, or by e-mail.

Course materials

Textbook: There isn't one.

On-line materials: In addition to the video lectures, I provide on-line content in the form of various supplemental essays. These are short documents that are intended to cover topics that are mathematical or strongly analytical in nature. The intent is to give you a backstop to the lectures, and may provide you with a richer understanding of the lecture. The course calendar and outline offer suggestions for when to read the supplemental essays.

A reminder that the video lecture material is copyrighted intellectual property. Your enrollment in this class constitutes a license to view the materials for the purposes of this course. This license does not allow you to download or copy the videos to your own computer, or to distribute the material to others, even if they are also enrolled in the course, or are matriculated at ESF. You will be asked to agree to these terms as a condition for viewing the course material.

Blackboard (<http://blackboard.syr.edu>) is the principal site for course news, announcements, where we are in the outline, exam dates, media, updates and so forth. Please check into Blackboard often. I generally will not send out announcements by e-mail.

Evaluation: At the end of the semester, you will be assigned a grade of A, B, C, D or F. Please be advised that I do not assign (+) or (-) modifiers to my grades.

Your final grade will be based on your performance on the four lecture exams. Each examination will account for 25% of your grade. The dates of the exams are indicated on the course calendar. The first three exams will be administered during the semester. The fourth exam will be administered during the final exam period. The exams are not comprehensive, that is, they will cover the material from the prior exam. Specific lectures are indicated in the course calendar.

Examinations must be taken in a proctored environment. Exams will be given on Thursdays during the normal class time specified in the Registrar's course schedule (9:30-10:50). You will be expected to take the examination at that time. The venue will be announced nearer to the exam date. If there is an absolutely unavoidable conflict, you may be granted permission to take the exam in an alternate proctored environment, but you will be responsible for making those arrangements, and your arrangement must be approved by me. **These arrangements must be made well in advance of the exam.** "Unavoidable conflict" means there is some problem, whether foreseen or unforeseen, that would prevent you from being physically present in the test venue. Inconvenience does not count as an unavoidable conflict.

Examinations are given on-line and will be administered through Blackboard. Instructions for taking these tests will be provided through Blackboard. On-line examinations are **closed book**. This means you are expected to not consult notes or other outside sources when you are taking the examinations. On-line examinations are also meant to be taken **by yourself**, with no cooperation or consultation with others. When you take the on-line examinations, you are **honor-bound** by **ESF's policies on Academic Integrity**. You will be asked to agree to these policies as a condition for taking the exams.

There will be no extra credit or service learning credits.

Course Policies

- *Missed examinations:* You are expected to take the examinations on the days they are offered. If you are ill, please make every effort to notify me **prior to the examination**. If there are exceptional circumstances that will prevent you from taking an examination during the set time, **notify me well before the date**. To qualify for a special time or venue for the exam, **you must consult with me before the exam date: ex post facto excuses will not be accepted**. If these conditions are not met, a score of zero will be entered for the missed examination.
- *Examination venues:* You are expected to take exams in the designated room on the designated date and time for the exam. If there is an unavoidable conflict, you can arrange to take the exam in an alternate proctored environment that must be approved by me in advance of the exam.

- *Technical issues:* You are expected to take reasonable steps to ensure that you have the technical capability to take examinations through your computer or mobile device. This means:
 - Ensuring that you have a reliable internet connection.
 - Ensuring that your browser is compatible with Blackboard examination formats (please note that Firefox is the recommended browser. Safari also works, but not as well as Firefox. **Google Chrome and Internet Explorer are not recommended**).
 - Ensuring that you have the up-to-date Blackboard apps installed on your mobile device.
 - Ensuring that your laptop or mobile device has sufficient charge to power your device through the examination period. *Depending upon the room, availability of power outlets may be extremely limited and extension cords will not be provided.*

Technical issues do sometimes arise during an exam that will require an exam reset. If this happens, you are expected to *notify us immediately* of the problem, so corrective action can be taken immediately.

- *Online academic integrity:* Collusion during exams is a serious violation of ESF's Code of Student Conduct and ESF's policies on Academic Integrity and is **strictly forbidden**. These policies may be found at <http://www.esf.edu/students/handbook/>. All students are expected to be familiar with these policies and to adhere to them. ESF also adheres to the honor system for sustaining ESF's climate of academic integrity. This means that students bear the same responsibility as faculty for sustaining a climate of academic integrity. This means that if you witness your fellow students engaged in behavior that violates academic integrity, you are obliged to help stop it or to bring it either to my attention or to the attention of the responsible campus authorities.
This is as true in the age of the cloud as it was for the age of paper. Sharing information or consulting notes on line during exams is as much cheating as looking at the book, or passing notes to classmates, whether on paper or through your smartphone, or looking over another student's shoulders, and is every bit as serious a violation of academic integrity.
- *Special accommodations:* For students needing a low-distraction environment for examinations, we provide a quiet space on campus. Ample time is built into the online examinations for students who need an extra time accommodation. For video lectures, students can make their own accommodations for suitable study environments.
- *Scope of examinations:* Anything in the readings or lectures may appear in the exams. This means there is no need ever to ask whether some topic will be on the exam. The course is divided into four modules, and each exam will cover the material in a module.
- *Feedback on examinations:* We do not give you access to your completed examinations via Blackboard. Feedback on particular questions is provided in the form of short explanatory videos that are available for a limited time following the exam. If you have questions about the grading of a particular question beyond this, we are happy to meet with you individually to resolve your concerns.
We personally check every exam to ensure that your answers to examination questions are graded accurately and objectively.
- *Repeating the course:* If you are taking this course a second time for a higher grade, probably not a good idea. The math is against any significant improvement of your GPA and is a waste of everyone's time, energy and resources. Better to do the hard work to get it right the first time.

EFB 662

EFB 662 is intended for graduate students who wish to have a refresher or first course in animal physiology, and receive graduate credit for it. Effectively, this means you will master the same material the undergraduates are expected to do and be evaluated by the same examination. Your points earned will constitute 80% of the total points for your grade. You will earn the remainder of your points through a special topics project.

Your special topics project will be determined in consultation with me. Once we have agreed upon a special topics project, you will submit a written special topics proposal (essentially a study / evaluation plan) that will be used as a yardstick for evaluating your special topics project. *The special topics proposal must be completed and submitted in the first three weeks of the semester.* The special topics proposal will count for 25% of the extra points you must earn (or 5% of your overall grade). Your special topics project will be evaluated on the basis of my judgment of how well you have met the agreed-upon goals in the study plan. The special topics project itself will count for 75% of the remaining points you must earn (or 15% of your overall grade).

I expect the final project to be submitted with the last exam. If there are circumstances that prevent you from meeting this deadline, please consult with me well in advance. As long as you have consulted with me, there will be no penalty for late submission. However, if I have not received the final project by the time grades must be submitted, I will enter a grade of “I” (incomplete) for the course. Once the special project is evaluated, the grade of “I” will be changed to the earned grade. Please note: **Incomplete grades revert to a failing grade after a year.**

I will grade the special project according to the following criteria, weighted equally:

Quality of writing: Is the document well-written? Is it riddled with errors in grammar, punctuation and layout? How hard does the reader have to work to get what you are trying to say?

Coherency of writing: Are the arguments coherent? Are they attentive to logical consistency? Do they make sense? Are they in the form of a “data dump”, facts strewn onto the page in the hope that something will stick?

Attention to the literature: Is the text well-grounded in the literature of the topic? Is the literature properly cited in the text, and do the references point the reader to where the cited literature may be found? Is there attention to historical context and development of thought?

Critical analysis: Is there evidence that the topic has been engaged critically? Is the text essentially a “book report”, a recitation of literature that is not engaged critically? Is there evidence of a mind at work in the text?